

3.1. INTRODUCTION: ARCHAEOLOGICAL AND GEOLOGICAL STUDIES WITHIN THE E18 TVEDESTRAND–ARENDALE PROJECT

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PROJECT BACKGROUND

This book presents the results from a comprehensive archaeological excavation project carried out by the Museum of Cultural History, University of Oslo¹, during three consecutive field seasons in 2014–2016 in Aust-Agder county, Southeast Norway. The excavations were conducted due to the Norwegian Public Roads Administration's (Norw.: *Statens vegvesen*) plan to construct a new E18 highway between the two towns of Tvedestrand and Arendal. This stretch is 23 km long and affects a total area of c.10,000 hectares, mainly in forested areas slightly withdrawn from the present-day shoreline. Just like almost all archaeological investigations in Norway, the E18 Tvedestrand–Arendal project was run as a cultural heritage management project, and the costs related to it were borne by the initiator, the Norwegian Public Roads Administration.

Ahead of the excavation project presented in this book, and in line with national cultural heritage management procedures, archeologists of the local county council first surveyed the affected area. The survey identified more than one hundred previously unknown archaeological sites – almost all of them dated to the Stone Age (Eskeland 2013, 2014). Exemption from the protection accorded such sites by the *Cultural Heritage Act* (LOV 1978-06-09 Nr. 50 [*Kulturminneloven*]) was granted by the Directorate for Cultural Heritage (Norw.: *Riksantikvaren*) for 50 of the sites, but on the condition that 35 of them should be investigated by archaeological excavation.

These 35 sites were subsequently examined within the E18 Tvedestrand–Arendal excavation project (see table in Reitan, chapter 2.1, this volume). Chronologically the Stone Age sites span from c. 9000 BC to c. 1700 BC. Hence, they cover almost the entire Stone Age from the Early Mesolithic through to the Late Neolithic, but with a certain bias towards the early phases.

THE SCOPE AND PRIORITIES OF THE E18 TVEDESTRAND–ARENDALE PROJECT

The practice of archaeological fieldwork is strictly scientifically founded: based on the data from the survey and the scientific priorities outlined in the Museum of Cultural History's Stone Age programme (Glørstad 2006), the E18 Tvedestrand–Arendal excavation project was designed to provide knowledge of, and insight into, certain matters under discussion in current Stone Age research in Southeast Norway (Mjærøum & Lønaas 2014; see also Mjærøum *et al.*, chapter 1.4, this volume). The most important objectives within the project were:

1. To analyse and provide knowledge about typological, technological and chronological traits in the archaeological record based on radiocarbon dates and new knowledge of local shoreline displacement conditions.
2. To investigate traces of intrasite settlement organisation through analyses of distribution of finds and constructions or structures.
3. To investigate the different site types and their functions through time.
4. To facilitate future large-scale analyses of settlement patterns and regionality in the coastal areas of Southeast Norway.

Compared to areas both further south and further north along the coast of Southeast Norway, the Stone Age of Aust-Agder has previously been investigated only to a small degree (see fig. 3.1.1). Consequently the data collected within the E18 Tvedestrand–Arendal project have an obvious scientific value, and not only on a local scale.

1. The Museum of Cultural History, University of Oslo, is one of the five university museums appointed to carry out archaeological excavations in mainland Norway. The Museum of Cultural History covers the ten counties that constitute Southeast Norway. These ten counties comprise a total area of c. 95,000 km², or nearly a fourth of mainland Norway's total (fig. 3.1.1).

THE SCIENTIFIC POTENTIAL OF THE RECORDED MATERIAL

The results from the excavations and scientific analyses from the Stone Age sites subjected to closer investigations within the project are individually presented in 15 chapters in section two of this publication (for English summaries, see chapter 2.7, this volume; see also Viken & Reitan, chapter 1.7). During the classification and processing of the collected assemblages it became apparent that the material has a significant potential for closer study into various aspects of the Stone Age of this region. The chapters here, in section three, aim to highlight and develop some of this potential.

The majority of the investigated sites were situated in forested areas and were seemingly undisturbed by later human activities. However, such sites are also affected by post-depositional processes – natural processes that arguably have had consequences for the distribution of the artefacts collected during archaeological excavations, as pointed out by Darmark in chapter 3.3.

The shoreline displacement in Aust-Agder has previously been little studied, and the mapping of the postglacial sea level changes in our area of investigation deserves special mention. A detailed knowledge of the local sea level history is crucial for an understanding of the settlement patterns and the landscape use in the area in question, as the Mesolithic population along the coast has relied heavily on marine resources (e.g. Persson 2014a; Skar *et al.* 2016; Boethius & Ahlström 2018; Breivik *et al.* 2018). The study of the shoreline displacement was conducted by Anders Romundset of the *Geological Survey of Norway* (NGU) as an integrated part of the E18 Tvedestrand–Arendal excavation project. Two different shoreline displacement curves were developed – one for the Tvedestrand area and one for the Arendal area – and both are presented in chapter 3.2. Despite the short distance of *c.* 20 km between the two curves, there is a striking deviation between them, thus accentuating the necessity of using local curves. Due to the topographical conditions in the area, the developed curves are exceptionally precise, providing highly reliable tools for dating shore-bound sites.

The value of NGU's curves is obvious, not least since organic matter suitable for radiocarbon dating is often lacking on Early- and Middle Mesolithic sites in Southeast Norway, as it is on most of the early E18 Tvedestrand–Arendal sites (*cf.* Solheim & Persson 2018; see also Viken & Reitan, chapter 1.7, this volume).

All the chapters in English provide knowledge of the four main objectives listed above – some

have a diachronic approach (chapters 3.4, 3.6 and 3.7), whereas others have a synchronic approach (chapter 3.5) or deal with specific developments within relatively short periods of time (chapters 3.8 and 3.9). A wide variety of aspects are studied in detail, including technological developments, raw material procurement strategies, contact networks and immigration routes, the identifying of site types or functions, the demographic composition of the groups studied, and the transition from hunting/fishing/gathering to farming.

SOUTHEAST NORWAY AND THE WIDER PERSPECTIVE

So far, since the turn of the millennium, approximately 400 Stone Age sites have been excavated in Southeast Norway. A considerable share of them have been investigated within large-scale rescue excavation projects preceding infrastructural constructions like motorways and railways, such as the E18 Tvedestrand–Arendal project (fig. 3.1.1), and these have subsequently been presented in publications (Berg 1995, 1997; Ballin 1998; Jakslund 2001; Glørstad 2004a; Jakslund 2012a, 2012b; Solheim & Damlien 2013; Jakslund & Persson 2014; Melvold & Persson 2014a; Reitan & Persson 2014; Solheim 2017; see *e.g.* Boaz 1997, 1998; Stene 2010 for Stone Age projects in the interior of Southeast Norway). As pointed out earlier by others (e.g. Glørstad 2006; Gundersen 2015: 243), the data sets collected within the large-scale projects play a key role as an empirical basis of the research status in the region. Data from several of these projects have also formed the empirical base of a series of doctoral theses during the last years (e.g. Solheim 2012a; Eigeland 2015; Damlien 2016; Berg-Hansen 2017; Fretheim 2017; Mansrud 2017), and more are in the making.

In addition to the multi-site projects a considerable number of smaller excavations of single sites have been carried out, and the scientific value of these excavations has been proved (e.g. Østmo 2007a, 2008; Eymundsson 2015; Eigeland *et al.* 2016).

Altogether this high intensity in archaeological excavations has generated a vast amount of data and has led to a significant increase in our knowledge of the Stone Age. It is anticipated that the rich data recorded from Southeast Norway will be included in studies which relate to international Stone Age perspectives in the coming years. This section of the E18 Tvedestrand–Arendal publication, in English, is only the first small step along that path (*cf.* N. Price 2008: 142).

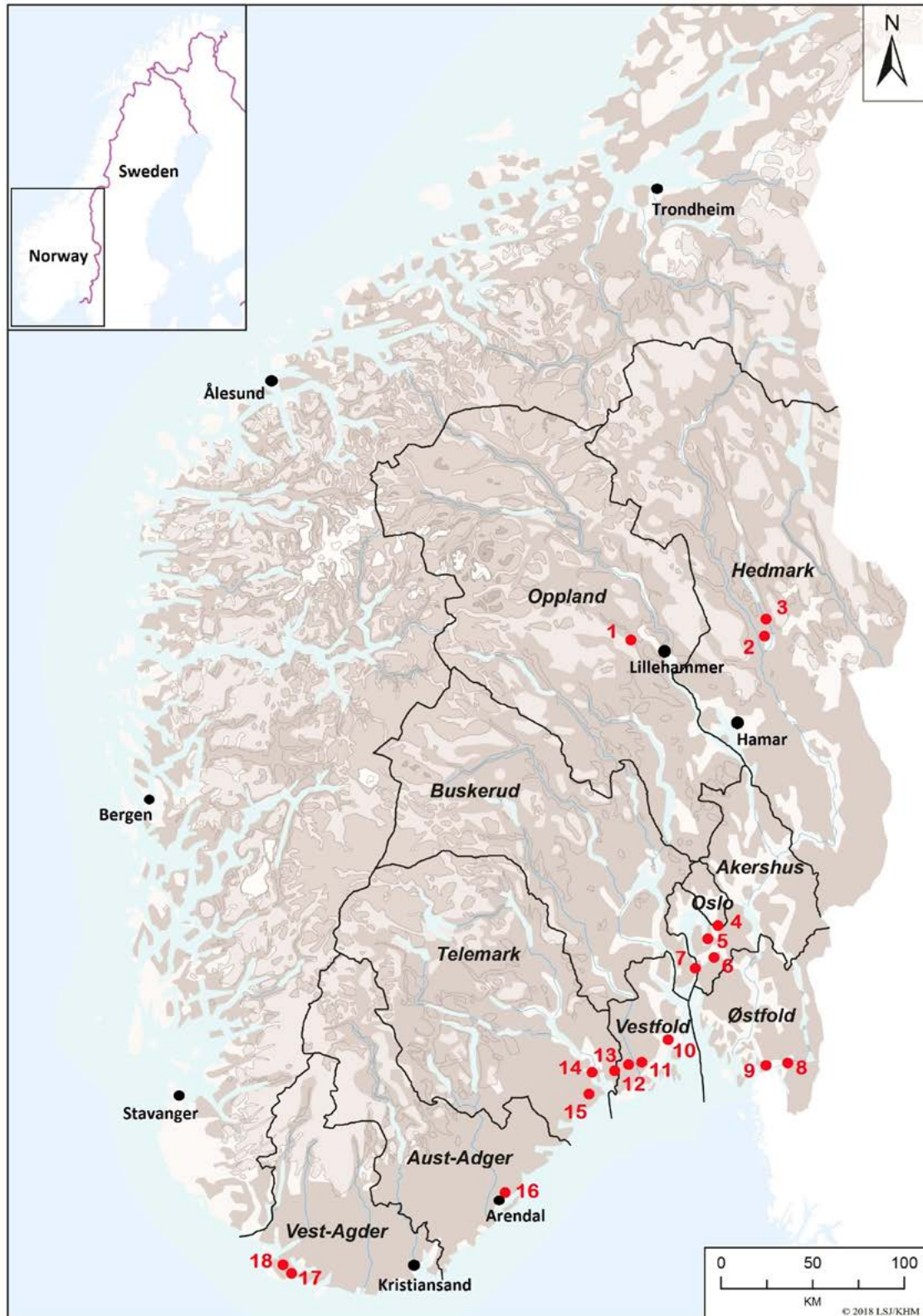


Figure 3.1.1: Large-scale and important multi-site excavation projects carried out in Southeast Norway during the last *c.* 30 years: 1) Dokkfloy, 11 sites (Boaz 1998), 2) Rødsmoen, 14 sites (Boaz 1997), 3) Gråfjell/Rena elv, 25 sites (Stene 2010), 4) Follobanen/Elgsrud, 5 sites (Eymundsson & Mjærum 2015; Eymundsson *et al.* 2018), 5) Vinterbro, 3 sites (Jakslund 2001), 6) E6/Dobbeltspor, 12 sites (Berg 1995, 1997), 7) Oslofjordforbindelsen, 10 sites (Ballin 1998), 8) Halden, 5 sites (Lindblom 1990), 9) Svinesund, 15 sites (Glørstad 2004a), 10) Brunstad, 3 sites (Reitan & Schülke 2017), 11) E18 Bommestad–Sky, 11 sites (Solheim & Damlien 2013), 12) E18 Brunlanes, 10 sites (Jakslund 2012a, 2012b; Jakslund & Persson 2014), 13) Vestfoldbanen, 29 sites (Melvold & Persson 2014a; Reitan & Persson 2014; Reitan 2016), 14) Skutvikåsen, 3 sites (Ekstrand 2013), 15) E18 Rugtvedt–Dørdal, 30 sites (Solheim 2017), 16) E18 Tvedestrand–Arendal, 34 sites (Reitan & Sundström 2018), 17) Farsund, 28 sites (Ballin & Jensen 1995), 18) Lundevågen, 8 sites (Berg-Hansen 2010; Reitan 2010). Ill.: L.S. Johannessen / G. Reitan / KHM.